

color depth, 50 ms response time, 70 cd/m<sup>2</sup> brightness and 150:1 contrast. Toshiba panels that may be embodied include: LTM11C016, LTM12C236, or LTM12C25S, which are capable of 50 ms response, 70 cd/m<sup>2</sup> brightness and 100:1 contrast. Manufacturers' references and manuals for each are hereby incorporated by reference.

**[0034]** Several I/O slots and/or connectors may be embodied at one or more edges of the flat panel display assembly **2**. **FIG. 1** shows access slots to a floppy disk **28**, external communication means **27**, printer connector **31**. Other external connection means may be embodied. Several connector means may be embodied, including auxiliary video connector, COM ports, and/or mouse/game ports. PCMCIA PC card **40** may be included for adding fax/modem, network interface (wire or wireless) external communications and/or added memory. An integrated built-in transmitter receiver and a retractable antenna **32** may be embodied, for example to the flat panel display assembly **2**. The antenna and associated RF transceiver may be used for wireless communications to/from an external communication network. Many of the well-known notebook computer or personal computer I/O devices may be embodied.

**[0035]** An important feature of this embodiment is the dimensions of the computer-display unit. It may be made conveniently larger than a 8.5×11 inch sheet of paper, so that one can place one or more sheets of paper (or other relatively thin flat objects) inside the closed clamshell like notebook structure in a folding or latching fashion. The user can safely carry papers from location to location without folding or wrinkling them. Thus the unit can act as a carrying device as well as a notebook computer. The outside surfaces and edges of notebook computer may be covered with leather, vinyl or other type of soft material, for easy of hand carrying and surface protection. Other parts may be embodied including foldable short legs **9A** and **9B**, keyboard resting pads **16A** and **16B**, built-in audio speaker(s) **30**.

**[0036]** **FIG. 2** shows the portable computer with several parts detached or disassembled. This embodiment may be used in desktop computer system environments. The flat panel display assembly **2** may be placed at an inclined angle, with foldable leg support means **19A** and **19B**. The leg support means may fold relatively flush to the backside of the assembly **2** (motion range **A**) when not in use, via a simple hinge **15**. Vertical portions **19A** and **19B** may slide in and out, in a telescoping type arrangement, to allow wide range inclination angles. A pair of short legs **3** may be placed near the front of assembly **2** that may also fold relatively flush with the back of the assembly. Means may be included to place the screen at a vertical orientation. A pen or stylus input means may be associated with the display screen **4**. The pen or stylus means may include finger input (touch panel) means, where one can write or point to area on the display screen. The expandable hinge means **10** may be removed from the assembly **2** and from the cover section **9** by a quick disconnect or disassembly means **5**. Alternatively, the hinge means may be fixed to parts **2** and **9**. The hinge means may be made of a relatively flexible material, such as leather and vinyl. It may be corrugated as shown in the figure so it can bend easily and expand, as required. The hinge may have a number of attachment slots **12** for the quick disattachment or disconnection from hook mechanisms **13**. **FIG. 2** shows the flexible hinge means **10** removed from the other assemblies.

**[0037]** Cover section **9** may contain a battery power unit containing one or more batteries and power circuit elements. The battery power unit may be embodied with several types of batteries, including Lithium-ion or NiCd batteries. The power unit may be a self contained battery package, having an easy to read charge indicator **22** that indicates the state of the battery's electrical charge. Because all batteries have a limited useful charge life, the package may be easily and quickly disconnected from the keyboard section **16** and replaced with another battery package. Spare battery packages and other spare parts could be carried in a separate traveling case (not shown). The keyboard section **16** may have a full size QWERTY keyboard with movable tactile keys. An electrical cable **20** may connect the keyboard to the computer-display assembly **2**. Although short cable is shown, it may be a long cable or a flexible cable, so that the keyboard may be moved about if desired. Alternatively, a wireless electromagnetic link may be embodied such as infrared (IR) or RF links, which would replace electrical cables **20** and **26**. The cover section **8** may contain a wireless handset **14**, such as a cellular telephone transceiver. The handset may have retractable antenna, small speaker, keypad, built-in microphone and a battery source. This handset **14** may be capable of analog or digital cellular operation, including AMPS, TDMA, CDMA, PCS, CDPD, or equivalent types for communicating with wide area wireless communication networks. The wireless unit **14** can be easily removed from a cutout or recess area **35** in the cover section **8**. The recess area is made slightly larger than the outside dimensions of the handset **14**, so it can fit inside the recess with a relatively snug fit. It is important the handset be easily and quickly removed and replaced in the base unit. Alternatively, cover section **8** consist of the handset itself, so that a separate cover section with recess would not be required.

**[0038]** The portable computer system's flexible hinge and the cover sections should be made relatively thin so that when the two halves are folded (rotated) closed, it will not be too thick or heavy to carry with one hand. As shown in **FIG. 1**, legs **3**, **5**, **19A** and **19B** may be folded roughly flush with outside surfaces of the unit. The number cover sections are not limited to three. The cellular handset is shown in **FIG. 2** may be connected to the computer system by an optional electrical cable **26**. A RF transceiver in the wireless telephone would serve as the transceiver for the computer as well. This embodiment might be desirable to reduce the overall cost of the system. However, a wireless RF transceiver and modem may be located in the flat display panel assembly **2** for voice or data communications. An antenna may be embodied on the display assembly **2**, with a retractable antenna **32**. The display assembly may include the computer system located within the assembly housing. The advantage of this later embodiment is that the telephone **14** and computer system could be operated independently.

**[0039]** The portable computer system may also have means for connection to a non-battery power source, as shown in **FIG. 2**, via a standard power line cord and plug **28**. The system may also have means for connection to an external wire based wide area communications network **33**, via cable **29**. The wire based wide area network may include one or more telephone networks, cable TV networks and/or computer LAN/WANs. Telephone networks may include POTS, ISDN, ATM or other equivalent types. Several computer interface connection means may be embodied, for example interface slots/connectors as shown (**27**, **31**, and